

REMARKS

This amendment is being submitted together with a request for continued examination (RCE).

Claims 1-7 and 19 are pending for further examination. Claims 8-18 were withdrawn from consideration as the result of a restriction requirement.

Claim 19 is new. Support for claim 19 may be found, for example, in FIG. 1.

Summary of telephone conference with the Examiner

Applicant thanks the Examiner for participating in a telephone interview with Applicant's representative on June 18, 2007 during which the Huang et al. patent was discussed with regard to claim 1. No agreement was reached.

Claim Rejections

In the Office action, the claims were rejected as follows:

- (1) Claims 1-4 and 6 were rejected as unpatentable over U.S. Application No. 2003/0164554 (Fee et al.) in view of U.S. Patent No. 6,630,729 (Huang).
- (2) Claim 5 was rejected as unpatentable over the Fee et al. application in view of the Huang patent in further view of U.S. Application No. 2002/0056926 (Jung et al.).
- (3) Claim 7 was rejected as unpatentable over the Fee et al. application in view of the Huang patent in further view of U.S. Patent No. 6,838,009 (Koon et al.).

In view of the following, Applicant respectfully requests reconsideration and withdrawal of the rejections.

Claim 1 recites a circuit device that includes a conductive pattern; a circuit element affixed onto the conductive pattern; and an insulating resin that seals the conductive pattern and the circuit element while exposing at least a bottom surface of the conductive pattern. Recessed

areas are in side surfaces of the insulating resin such that outwardly facing outer peripheral parts of the conductive pattern are exposed from within the recessed areas.

Claim 1 has been amended to recite that “the top surface of the circuit device consists of insulating resin.” An example is illustrated in FIG. 1 in which the insulating resin is identified by reference numeral 14. The top surface of the circuit device 10 consists of the insulating resin 14.

In contrast, the Huang patent discloses a semiconductor package that has top and bottom surfaces that include both leads 33 and encapsulant 39. *See, e.g.*, FIG. 12. The leads 33 are exposed from the encapsulant 39 at the top and bottom surfaces so that multiple semiconductor packages can be stacked together such that the upper surface of one package abuts a corresponding lower surface of an adjacent package. *See* col. 3, lines 25-32. A conductive material 335 such as solder tin connects the leads of one package to the leads of the other (*see* col. 6, lines 46-53; FIG. 12), thereby electrically coupling the stacked packages. According to the Huang patent, this increases the layout density and strengthens the performance of the packages. *See* col. 3, lines 25-32.

Although the Fee et al. patent shows a semiconductor package 10 in which the top surface consists of encapsulant 26 (*see, e.g.*, FIG. 2), one of ordinary skill in the art would not combine the Fee et al. patent with the Huang patent such that the top surface of the Huang patent consists of insulating resin. If the patents were combined in that way, the insulating resin would prevent the electrical coupling of the semiconductor packages when they are stacked together. Thus, the layout density and strengthened performance taught by the Huang patent would not be achieved.

For the same reason, even if the Huang patent discloses recessed areas in side surfaces of an insulating resin such that outwardly facing outer peripheral parts of the conductive pattern are exposed from within the recessed areas, as the Office action alleges, one of ordinary skill in the art would not include those recessed areas at the side surfaces of the encapsulant 26 in the Fee et al. patent. Contrary to the Office action's statement at page 4, including the recessed areas in the encapsulant 26 and stacking semiconductor packages 10 would not achieve the layout density

and strengthened performance taught by the Huang patent because the top surfaces of the packages 10 are covered entirely by the encapsulant 26.

On the other hand, if the top surfaces of the semiconductor packages 10 were to also include the leads 18A and 18B such that the leads are exposed from the encapsulant 26, the wire bonds 24 would not be able to connect the semiconductor die 12 to the outer lead 18B.

Therefore, there is simply no disclosure or reason that the Fee et al. patent and the Huang patent can be combined to obtain the subject matter recited in claim 1.

Neither the Jung et al. reference nor the Koon et al. reference discloses or suggests the features missing from the Fee et al. and Huang patents.

At least for the foregoing reasons, claims 1 should be allowed. Claims 2-7 and 19 depend from claim 1 and should be allowed for at least the same reasons.

Conclusion

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

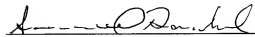
The required fee for the Request for Continued Examination is being paid electronically. Please apply any other charges or credits to deposit account 06-1050.

Applicant : Noriaki Sakamoto
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Respectfully submitted,

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Samuel Borodach
Reg. No. 38,388

Fish & Richardson P.C.
Citigroup Center
52nd Floor
153 East 53rd Street
New York, New York 10022-4611
Telephone: (212) 765-5070
Facsimile: (212) 258-2291

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